

What is ~~claimed~~ is:  
 Claimed

## CLAIMS

11/25/01

1/ Monoclonal antibodies or their fragments, more particularly their Fv, Fab, and F(ab')<sub>2</sub> fragments, characterized in that they recognize an epitope of a bacterium of the species *T. equigenitalis*.

2/ Monoclonal antibodies or their fragments, more particularly their Fv, Fab, and F(ab')<sub>2</sub> fragments, according to claim 1, characterized in that they do not exhibit a crossed reaction with the epitope or epitopes of a bacterium of a different *Taylorella* species or of a bacterium of a different genus.

3/ Monoclonal antibodies or their fragments, according to claim 1 or 2, characterized in that they are capable of recognizing proteins of *T. equigenitalis* of the group comprising proteins such as proteins of 150 kDa, 120 kDa, 52.7 kDa or 22 (LPS) kDa.

4/ Monoclonal antibodies, characterized in that they can be obtained from hybrids

- by fusion of non-secreting murine myeloma cells with spleen cells from mice immunized using an inactivated strain of the species *T. equigenitalis* or extract(s) from such a strain, and

- cloning and selection according to the capacity of their culture supernatant to recognize an epitope or epitopes of a bacterium of the species *T. equigenitalis*,

- recovery of the required monoclonal antibodies, followed by purification if necessary.

5/ Immunogenic proteins, characterized in that they are capable of interacting with monoclonal antibodies or their fragments according to any one of claims 1 to 4.

6/ Monoclonal antibodies, and their fragments, in particular their Fv, Fab, F(ab')<sub>2</sub> fragments, characterized in that they are anti-antibodies, i.e. antibodies capable of interacting with the monoclonal antibodies or their fragments according to any one of claims 1 to 4.

7/ A method of obtaining monoclonal antibodies according to any one of claims 1 to 4, characterized in that it

comprises:

- fusion of non-secreting murine myeloma cells with spleen cells from mice immunized by means of a strain of the species *T. equigenitalis* or extract(s) from such a strain,

5       - screening by means of a detection technique, such as in particular indirect immunofluorescence, of hybridomas whose culture supernatants exhibit a positive reaction with a bacterium of the species *T. equigenitalis* or a fragment of the latter,

10       - selection by cloning of these hybridomas with respect to their reactivity, in relation to *T. equigenitalis*, and

- recovery of the monoclonal antibodies, followed if necessary by their purification.

15       8/ A method of obtaining monoclonal antibodies according to claim 6, characterized in that it comprises:

- fusion of non-secreting murine myeloma cells with spleen cells from mice immunized using monoclonal antibodies or their fragments as defined in one of claims 1 to 4,

20       - screening by means of a detection technique, such as in particular indirect immunofluorescence, of hybridomas whose culture supernatants exhibit a positive reaction with one of the said monoclonal antibodies or their fragments,

- selection by cloning of these hybridomas, and

- recovery of the required anti-antibodies.

25       9/ Strains of hybridomas, characterized in that they are capable of secreting monoclonal antibodies according to any one of claims 1 to 4. ✓

30       10/ Strains of hybridomas, characterized in that they are capable of secreting monoclonal antibodies according to claim 6. ✓

11/ Method of identification of a bacterium of the species *T. equigenitalis* in a sample or in a culture, comprising:

35       - bringing the sample or the culture to be analysed, which may contain *T. equigenitalis*, into contact with

- i. an effective quantity of at least one monoclonal antibody or a fragment of such an antibody according to any one of claims 1 to 4 and, optionally, blocking the non

antigen-antibody reactions,

ii. or, as a variant, to detect the presence of antibodies directed against *T. equigenitalis* with an immunogenic protein according to claim 5 or an antibody according to claim 6, in conditions permitting a reaction of the antigen-antibody type and

- detection of any product formed in a reaction of the antigen-antibody type.

12/ Method of diagnosis of an infection by *T. equigenitalis*, more particularly contagious equine metritis in a sample or a culture, comprising:

- bringing one or more monoclonal antibodies according to any one of claims 1 to 4 or their fragments, into contact with a biological sample, and

- detection of the reaction of the antigen-antibody type produced in the case when *T. equigenitalis* is present in the sample,

- and, optionally, blocking of the non antigen-antibody reactions, for example, by saturation of the specimen obtained by means of a serum from which anti-*T. equigenitalis* antibodies have been removed.

13/ Kits for the application of a method according to one of claims 11 or 12, characterized in that they include

- one or more monoclonal antibodies, or their fragments, according to any one of claims 1 to 4, or at least one immunogenic protein according to claim 5, or one or more monoclonal antibodies, or their fragments, according to claim 6,

- reagents, in particular markers or buffers, for carrying out the intended immunogenic reaction, and, optionally, reagents for blocking non antigen-antibody reactions such as mouse serum,

- as well as instructions for use.

14/ Pharmaceutical compositions, characterized in that they contain one or more monoclonal antibodies, or their fragments, according to any one of claims 1 to 4, as vectors of medicaments or as agents for passive immunotherapy, alone

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